UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,955	08/08/2001	Una Quinlan	3Com-92 (2764WSDUSP)	2012

30349	7590	01/25/2006

JACKSON & CO., LLP
6114 LA SALLE AVENUE
SUITE 507
OAKLAND, CA 94611-2802

EXAMINER
BONZO, BRYCE P

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/924,955	QUINLAN, UNA
	Examiner	Art Unit	
	Bryce P. Bonzo	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>08 June 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-11 and 16-24* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-11 and 16-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>08 August 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

STATUS OF THE CLAIMS

Claims 1, 3-11, 13, 14, 16-24 are rejected under 35 USC §103.

Rejections under 35 USC §103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,3-11, 13, 14, 16-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sterner (United States Patent No. 6,728,216) in view of Hurwitz (United States Patent No. 5,884,041.

As per the claim 1, Hurwitz discloses:

1.) A method of diagnosing, in a network comprising two devices connectable by a link, the type of failure of the connection between the devices, said method comprising:

connecting the two devices together at least one of the devices including a plurality of registers (page 3, lines 13-18), each register being adapted to store data about one or more types of said failure (column 3, lines 40-65),

running an auto-negotiation sequence (column 3, lines 39-41),

detecting said failure and passing signals relating to that failure to the relevant

register(s) (column 5, lines 14-19),

interrogating the or each register (column 4, lines14-19), and

determining the type of said failure from a plurality of types of failure (column 5,

lines 21-28).

Hurwitz does not explicitly disclose:

wherein the step of determining the type of said failure includes the step of

determining the data in the relevant register(s) and from said data indicating the type of

said failure and/or a proposed course of action.

Sterner discloses:

connecting the two devices together at least one of the devices including a

plurality of registers each register being adapted to store data about one or more types

of said failure (Figure 1, items 14a)

running an auto-negotiation sequence (Figure 2, item 62),

detecting said failure and passing signals relating to that failure to the relevant

register(Figure 2, item 66),

interrogating the or each register (Figure 2, item 66)), and

determining the type of said failure from a plurality of types of failure wherein the

step of determining the type of said failure includes the step of determining the data in

the relevant register(s) and from said data indicating the type of said failure and/or a proposed course of action (column 7, lines 40-61)

While Hurwitz does not explicitly disclose the presence the determining the type of error from data in a register indicating the failure, Hurwitz does disclose that his system is clearly extensible to handle more types of events (which in Hurwitz translate to errors, column 5, lines 28-37). Sterner clearly is a specific implementation of a link negotiator which are used in Hurwitz. Therefore it would have been obvious to one of ordinary skill in the art to integrate the symbol error handling mechanisms of Sterner's auto-negotiator in to the auto-negotiator of Hurwitz, thus creating a stronger auto-negotiation sequencer allowing for more reliable communication.

As per claim 3, Hurwitz does not explicitly disclose:

indicating the type of said failure and/or a proposed course of action on said visual display unit. Official Notice it is notoriously well known the provide visual display units on the network adapters which indicate types of errors. This is commonly provided for by a set of small LEDs on the faceplate of the network adapter. Typically these error lights are used for used to provide an indication of either a connectivity error or card malfunction. These LEDs are provide a user with a mechanism to quickly and visually inspect the state of the networking elements of the computer system. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the LEDs of the well established prior art into the system of Hurwitz thus

creating a user interface to convey the error information to a user, thus increasing the user accessibility of the error handling system of Hurwitz.

As per claim 4, Hurwitz does not explicitly disclose:

a loss of light failure. Hurwitz does explicitly disclose the extensibility of his system to handle more events (failures). Official Notice is given that loss of light is a well known type of fault in computer networks, which disables optical networks completely. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the recording of loss of light failures into the extensible system of Hurwitz, thus providing for the alerting of a common error and increasing the versatility of the system of Hurwitz.

As per claim 5, Hurwitz does not disclose:

a bit/word alignment failure. Official Notice is given that a bit/word alignment fault is a well known type of fault in computer networks, which disrupts networks corrupting packetized data. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the recording of bit/word alignment faults into the extensible system of Hurwitz, thus providing for the alerting of a common error and increasing the versatility of the system of Hurwitz.

As per claim 6, Hurwitz does not explicitly disclose:

a loss of synchronization. Official Notice is given a loss of synchronization is a well known type of fault in computer networks, which disrupts networks corrupting packetized data. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the recording a loss of synchronization faults into the extensible system of Hurwitz, thus providing for the alerting of a common error and increasing the versatility of the system of Hurwitz.

As per claim 7, Hurwitz discloses:

an auto-negotiation hang during base page exchange. Official Notice is given that a auto-negotiation hang fault is a well known type of fault in computer networks, which aborts the establishment of a connection. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the recording of auto-negotiation hang faults into the extensible system of Hurwitz, thus providing for the alerting of a common error and increasing the versatility of the system of Hurwitz.

As per claim 8, Hurwitz does not explicitly disclose:

an auto-negotiation hang during next page exchange. Official Notice is given that a auto-negotiation hang fault is a well known type of fault in computer networks, which aborts the establishment of a connection. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the recording of auto-negotiation hang faults into the extensible system of Hurwitz, thus providing for the alerting of a common error and increasing the versatility of the system of Hurwitz.

As per claim 9, Hurwitz does not explicitly disclose:

an auto-negotiation protocol (repeated) restart due to initiation of a "break link". Official

Notice is given that a auto-negotiation due to initiation of a "break link " fault is a well

known type of fault in computer networks, which aborts the establishment of a

connection. Thus it would have been obvious to one of ordinary skill in the art at the

time of invention to incorporate the recording of auto-negotiation due to initiation of a

"break link" faults into the extensible system of Hurwitz, thus providing for the alerting of

a common error and increasing the versatility of the system of Hurwitz.

As per claim 10, Hurwitz discloses:

the steps of interrogation and of determining are controlled by a program on a

device in the network (column 2, lines 49-54: also disclosed at column 6, lines 47-63 of

Sterner).

As per claim 11, Hurwitz discloses:

the steps of interrogation and of determining are controlled by a program on one

of said devices (column 2, lines 49-54; also disclosed at column 6, lines 47-63 of

Sterner).

As per claim 21, Sterner discloses:

wherein the detection step is carried out by signal detector logic in one of said

devices (page 7, lines 40-61).

As per claim 13, Hurwitz does not explicitly disclose:

the link is a fibre optic signal and light is detected by a transceiver and the

detector in a data/link layer of the OSI stack checks for an adequate power level on the

received at the transceiver. Hurwitz does disclose the use of Ethernet the highly

extensible data link protocol which is present in the data/link layer. Hurwitz further

provides for extending the number and types of faults handled by the data/link layer.

Official Notice is taken that is notoriously well known the check for power levels on fibre

optic lines, as this the incorrect power levels on a fibre lines can indicate a damaged

fibre line. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the checking of well known faults including loss of power in a fibre line in to the system faults reporting system of Hurwitz, thereby thus providing for the alerting of a common error and increasing the versatility of the system of Hurwitz.

As per claim 14, Hurwitz does not explicitly disclose:

in which said signal detector logic deals with clock recovery, comma alignment and receive synchronization so as to check the received signal frequency, encoding integrity and correct alignment of the received signals. Hurwitz does disclose the use of Ethernet the highly extensible data link protocol which is present in the data/link layer. Hurwitz further provides for extending the number and types of faults handled by the data/link layer. Official Notice is taken that clock recovery, comma alignment and receive synchronization are notoriously well known to the check for errors in signal frequency, encoding integrity and correct alignment of digital signals. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to incorporate the checking of well known faults including loss of power in a fibre line in to the system faults reporting system of Hurwitz, thereby thus providing for the alerting of a common error and increasing the versatility of the system of Hurwitz.

As per claim 17, Hurwitz discloses:

said signal detector logic includes an auto-negotiation state machine which deals with the exchange of one or more pages of information between the two devices,

handles link restarts by the link partner, and reports the link state and hangs (Figure

3A+3B; column 2, lines 55-68).

As per claim 22, Sterner discloses:

      wherein said signal detector logic is one of said devices includes a bit error

counter to count symbol errors (column 7, lines 40-61).

As per claim 16, Sterner discloses:

      said bit error counter is set at regular intervals, to provide bit error rate calculation

(column 7, lines 62 through column 8, line 7).

As per claim 23, Neither Hurwitz nor Sterner does not explicitly disclose:

      wherein the type of failure is determined to by the occurrence of a large number

of bit errors, indicating damage to a fiber optic cable, the course of action being

replacement of the fiber optic cable.

      Official Notice is given that damaged fiber optic cable and a common solution to

problems with damaged fiber is its replacement is given. Fiber optic cable is ubiquitous

is modern communication system such as 100 and 1000 base Ethernet as both

applicant and Sterner disclose. Sterner further anticipated his invention being used in

environments where the cables are degraded (column 8, lines 26 "bad cable"). Thus it

would have been obvious to one of ordinary skill in the art at the time of invention to use

the system of Sterner and Hurwitz in an optic system and account for optical cabling

and its repair, thus creating a system which not only handles protocol errors but also physical errors.

As per claim 24, Hurwitz nor Sterner explicitly disclose:

wherein the type of failure is determined by frequent signal detection failure, indicating a loose connection on an end of a link, the course of action being checking the connectors.

Official Notice is given that is notorious well know for loose connections causing frequent signal failure and for the correction of these problems checking the connection. Electrical/optical connectors are common place on all computing devices on modern computers, particularly network devices.   Sterner anticipates the problems with hardware circuitry (page 8, lines 26-27).   The mechanical interface of an electrical are well known sources of consternation for technical support.   Thus it would have been obvious to one of ordinary skill in the art of computer error handling to modify a system of Hurwitz and Sterner to further include the identification of a loose connection and it repair, thus creating a more fault tolerant system.

As per claim 18, Hurwitz discloses:

at least two device configured to connect together, at least one of the devices including a plurality of registers, each register adapted to store data about one or more types of said failure (column 3, lines 13-18);

wherein the system is configured to

run an auto negotiation sequence (Figure 3A and 3B);

detecting said failure and passing signals relating to that fault to the

relevant register(s) (column 4, lines 4-19);

interrogate the or each register (column 4, lines 14-19); and

determine the type of said failure from said plurality of types

of failure (column 5, lines 21-28);

Hurwitz does not explicitly disclose:

determine the type of said failure from a plurality of types of failure, and wherein

the system is further configured to determine the data in the relevant register(s) and

from said data indicate a type of failure and/or a proposed course of action.

Sterner discloses:

at least two device configured to connect together, at least one of the devices

including a plurality of registers, each register adapted to store data about one or more

types of said failure (Abstract)

wherein the system is configured to

run an auto negotiation sequence (Figure 2, item 62));

detecting said failure and passing signals relating to that fault to the

relevant register(s) (Figure 2, item 62);

interrogate the or each register (Figure 2, items 66-72); and

determine the type of said failure from a plurality of types of failure, and wherein

the system is further configured to determine the data in the relevant register(s) and

from said data indicate a type of failure and/or a proposed course of action (column 7,

lines 52-61).

While Hurwitz does not explicitly disclose the presence the determining the type

of error from data in a register indicating the failure, Hurwitz does disclose that his

system is clearly extensible to handle more types of events (which in Hurwitz translate

to errors, column 5, lines 28-37). Sterner clearly is a specific implementation of a link

negotiator which are used in Hurwitz. Therefore it would have been obvious to one of

ordinary skill in the art to integrate the symbol error handling mechanisms of Sterner's

auto-negotiator in to the auto-negotiator of Hurwitz, thus creating a stronger auto-

negotiation sequencer allowing for more reliable communication.

As per claim 20, Hurwitz discloses:

connecting the two devices together at least one of the devices including a

plurality of registers, each register being adapted to store data about one or more types

of said failure (column 3, lines 13-18),

running an auto-negotiation sequence (column 3, lines 40-65);

detecting said failure and passing signals relating to that failure to the relevant

register(s) (column 3, lines 39-41),

interrogating the or each register (column 4, lines 14-19), and

determining the type of said failure from a plurality of types of failure (column 5, lines 21-28)

Hurwitz does not explicitly disclose:

determine the type of said failure from a plurality of types of failure, and wherein the method includes the step of determining the data in the relevant register(s) and from said data indicate a type of failure and/or a proposed course of action.

Sterner discloses:

connecting the two devices together at least one of the devices including a plurality of registers, each register being adapted to store data about one or more types of said failure (column 3, lines 13-18),

running an auto-negotiation sequence (column 3, lines 40-65);

detecting said failure and passing signals relating to that failure to the relevant register(s) (column 3, lines 39-41),

interrogating the or each register (column 4, lines 14-19), and

determine the type of said failure from a plurality of types of failure, and wherein the method includes the step of determining the data in the relevant register(s) and from said data indicate a type of failure and/or a proposed course of action (column 7, lines 52-61).

Response to Applicant Arguments

As new claims have been presented, a new rejection has been presented.

Final Disposition

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryce P. Bonzo whose telephone number is (571)272-3655. The examiner can normally be reached on Monday-Friday.
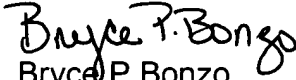
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571)272-3645. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bryce P Bonzo
Primary Examiner
Art Unit 2113